



Richard DeHaven

04/01/03 11:37 AM

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Eugene.A.Degenhardt@usace.army.mil

Subject: FERC #2100--Thermalito Outlet Temp Issues

File: FERC #2100 (w/ attach. printed)

Terry and Curtis: Water temperature control downstream of the Afterbay Outlet is a serious issue. I'm sure we can all agree on that. It is likely presently a significant limiting factor for salmonids; nevertheless, there may also be changes to the Afterbay system and/or operations that could very significantly benefit fisheries. Moreover, I do not believe that this issue is likely to get the attention and in-depth analysis as a potential PM&E measure that it deserves through the usual working group and Plenary Group processes. I therefore am proposing in the attached, that a Function Analysis Workshop be sponsored and conducted (or at least formally considered by the collaborative) by DWR for this very important issue. Thanks for considering this recommendation. Relay it on, as appropriate.--Rich D.



Funct Anal WShop Justi.

Richard W. DeHaven, Senior Fish and Wildlife Biologist,
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Sacramento, CA 95825; 916-414-6738; Fax 414-6712 or 6713

FISH AND WILDLIFE SERVICE RECOMMENDATION TO DWR TO CONDUCT A "FUNCTION ANALYSIS WORKSHOP" FOR THERMALITO AFTERBAY OUTLET WATER TEMPERATURE REGULATION ISSUES-IN RELATION TO THE OROVILLE FERC RELICENSING PROCESS

1. A Functional Analysis Workshop or Design Analysis Workshop is a structured, interdisciplinary, formal process conducted early in the life-cycle of a project. It focuses on stakeholder-oriented problem solving and cost reductions. During the brainstorming sessions that help identify a wide range of alternatives, increased emphasis is placed on speculation of the desired function rather than the item. Such a workshop is structured to be highly interactive and encourage thinking and problem solving "outside of the box."
2. The U.S. Bureau of Reclamation in Sacramento has employed the Functional Analysis Workshop process on a number of occasions to address complex water-temperature and flow-related issues involving its reservoirs and the downstream flows they control. For example, a *Water Temperature Improvement Study* for the lower American River was completed during January 2001 and a *Flow Fluctuation Study* for the lower American River was completed during August 2002. These were both 1-week efforts. A number of the participants in these workshops believe that the workshops produced much more effective solutions than would have been achieved using more conventional means and processes.
3. The Service believes that improving water temperature control to the lower Feather River to benefit salmonids via the Thermalito Afterbay Outlet (or an alternative outlet) is an issue which could greatly benefit from a Functional Analysis Workshop. Not only are there significant competing goals of power provision, versus providing cold water for salmonids, versus warm water for agricultural diversion, but DWR's presently-proposed approach is to simply model some alternative flow regimes to determine if any beneficial changes may be feasible. This may be a rather simplistic approach that fails to consider structural changes—even minor ones—which could potentially have very substantial benefits. A formal workshop would be one way to catalog the various potential solutions and determine if any may be feasible for inclusion as Resource Actions in conjunction with the ongoing FERC relicensing for the Oroville project.
4. **The Service recommends that DWR sponsor a Functional Analysis Workshop for this issue, or at least bring this topic to the appropriate work groups and Plenary Group for discussion and decision as to whether such a workshop would be appropriate and useful.**
5. Two key contacts from USBR's recent Functional Analysis Workshops are:

Mr. Federico Barajas
Project Manager
USBR Planning Division
2800 Cottage Way
Sacramento, CA 95825
916-978-5066

Mr. Eugene A. Degenhardt
Certified Value Specialist
U. S. Army Corps of Engineers
St. Louis District
1222 Spruce St., St. Louis, MO 63103
314-331-8305

April 2, 2003

De Haven

Rich,

Here is the report I mentioned to you on the phone yesterday. Please show it to whomever you feel necessary. If possible, I would like to have it back sometime – no hurry. To give you an idea of my background and capabilities, I am also enclosing several copies of a publicity sheet that shows the services offered when I take a team of experts with me to facilitate a study. Typically, however, I am hired for my workshop facilitation and report preparation services

I fill in my slack workload periods by doing work outside of the St. Louis District of the Corps of Engineers – working on projects different than what we have here and being able to give fresh, unbiased, outside perspectives. My strengths lie with getting people together/conflict resolution-type endeavors. I am a people person... a listener... getting people to understand where each other is coming from and getting them to develop Win-for-All outcomes.

The enclosed report will give you an idea of my capabilities. As you will note, it was called a Function Analysis workshop instead of a Value Engineering workshop because it encompasses much more than simply saving money. As you scan the report, please look at the following items.

- Pages ES-2 and 3 – Recommendations of the three work groups, including “Jump-Start” items that are now being pursued and implemented. Note the diagram...the items attached to each of the four functional study items were developed during the workshop. The byline came from the team and says it all.
- Pages 3 and 4 – Note the large number of Stakeholder groups. I am comfortable working in an environment where there is a lot of uncertainty. Again, it's about getting people together... and involved.
- Page 6, full paragraph below the photograph – This explains the difference between VE and Function Analysis (FA) – it works!
- Pages 8 and 9 – The agenda gives you a feel for how the workshop was conducted. I tailor every workshop specifically to the Project Manager's needs.
- Page 12 – Pre-brainstorming activities – laying a foundation, including Koosh Balls, shaving cream, Yo-Yo's, etc. Creativity should be a fun experience!
- Page 21 – The Function Analysis Formulation Diagram that I prepared prior to the workshop as a Strawman discussion starting point.
- Appendices D and G – My PowerPoint presentations... giving you a feel for my style. I live outside-the-box and get others to do the same.

Please let me know if you need any additional information. Since I am a federal employee, my services can be obtained via a funds transfer from any federal agency. Federico Barajas can give you an insight as to how this can be accomplished.

Eugene A. Degenhardt

Eugene A. Degenhardt, P.E., CVS-Life
Value Engineering Office
U.S. Army Corps of Engineers
1222 Spruce Street
St. Louis, MO 63103
Phone: 314 331-8305

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- Spunky Bottoms, IL, Environmental Restoration (Section 1135)
- Horseshoe Lake, MO, Ecological Restoration Plan (Section 206)
- San Joaquin, CA, Central Valley Agricultural Area Salinity Study
- Temperature Improvement Study, Lower American River, CA



Shoreline Protection

Resumé Synopsis of Eugene A. Degenhardt, P.E.

- Chief, Value Engineering Office, Engineering Division, St. Louis District, USACE
- BS, 1967, Geological Engineering
- MS, 1973, River Mechanics, Remote Sensing, and Fluvial Geomorphology
- Professional Engineer, Colorado, 1973
- HQUSACE VE Training Coordinator
- Certified Value Specialist with Life status
- On Editorial Board of *Value World* - current in the latest VE technologies and tools
- Phone: 314-331-8305



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- Experience in facilitating Stakeholder groups with divergent interests to achieve Win-for-All solutions
- Satisfied clients include other Corps Districts and Federal agencies
- Recipient of 2001 DoD Value Engineering Professional Achievement Award
- Internationally recognized as an out-of-the-box innovator in the VE profession
- Developer of the Function Analysis Formulation Diagram procedure for large projects in the formulation stages of development



Barrier Island Restoration



LOWER AMERICAN RIVER FLOW FLUCTUATION STUDY REPORT

Function Analysis Workshop
August 12-16, 2002

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November 2002